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NOTIFICATION OF TRANSMITTAL OF  
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(PCT Rule 71.1)

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Applicant's or agent's file reference

2512/8

## IMPORTANT NOTIFICATION

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US01/26051

21 August 2001 (21.08.2001)

22 August 2000 (22.08.2000)

Applicant

SCHNEIDER, GARY M.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

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Form PCT/IPEA/416 (July 1992)

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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2512/8	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US01/26051	International filing date (day/month/year) 21 August 2001 (21.08.2001)	Priority date (day/month/year) 22 August 2000 (22.08.2000)
International Patent Classification (IPC) or national classification and IPC IPC(7): G06F 17/60 and US Cl.: 705/8; 702/5		
Applicant SCHNEIDER, GARY M.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>   </u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 22 March 2002 (22.03.2002)	Date of completion of this report 24 June 2003 (24.06.2003)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Tariq Hafiz Telephone No. (703) 308-1113	

Form PCT/IPEA/409 (cover sheet)(July 1998)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US01/26051

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed.
- ☒ the description:  
pages 1-30 as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages 31-39, as originally filed  
pages NONE, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
pages 1-13, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

Form PCT/IPEA/409 (Box I) (July 1998)

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## V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. STATEMENT

Novelty (N)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Inventive Step (IS)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Industrial Applicability (IA)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO

## 2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

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## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

## V.I. Reasoned Statements:

The opinion as to Novelty was positive (Yes) with respect to claims 2-3, 8, 11-12, 15, 17-18, 20-21, 26, 29-30, 33, 35-36, 38-39, 44, 49, 51-52  
The opinion as to Novelty was negative (No) with respect to claims 1, 4-7, 9-10, 13-14, 16, 19, 22-25, 27-28, 31-32, 34, 37, 40-43, 45-48, 50  
The opinion as to Inventive Step was positive (Yes) with respect to claims NONE  
The opinion as to Inventive Step was negative (NO) with respect to claims 1-52  
The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-52  
The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE

Claims 1, 4-7, 9-10, 13-14, 16, 19, 22-25, 27-28, 31-32, 34, 37, 40-43, 45-48, and 50 lack novelty under PCT Article 33(2) as being anticipated by Hargrove, Jr. et al (USPN 5,897,619).

As per claim 1, Hargrove, Jr. et al discloses a method for developing a custom farm management plan for production agriculture pertaining to a farm (interactive farm management system 10, see Figure 1), comprising the steps of: prompting a user to input information pertaining to said farm (see user interfaces Figures 4-11 and column 7, lines 10-13); obtaining said input information pertaining to said farm from said user via a global electronic communications network (networked computers, see column 4, lines 23-25); obtaining third party industry information from at least one third party industry professional via said global electronic communications network (crop insurance information, see column 7, lines 1-6); analyzing said input information pertaining to said farm and said third party industry information obtained from said third party industry professional (verify regulations crop configuration, and analyze claim validity, see column 7, lines 13-21); generating a first custom farm management plan based on said input information and said third party industry information (generation of policy/plan, see column 7, lines 6-9); transmitting said custom farm management plan to said user to be displayed by said user (via system 10).

As per claim 4, Hargrove, Jr. et al disclose the step of transmitting an instruction signal to said user via said global electronic communications network.

As per claim 5, Hargrove, Jr. et al discloses at least one farm management preference selected from the group of agronomic, operational and physical farm information (shape of field, see column 7, lines 1-4).

As per claim 6, Hargrove, Jr. et al discloses industry information is selected from the group of seed prices, fertilizer prices, production contracts, agriculture insurance rates (see column 4, lines 37-40), agriculture marketing information, agriculture consultant's information, agriculture accounting information, and lender's interest rates.

As per claim 7, Hargrove, Jr. et al discloses said third party industry professional is selected from the group of input supply retailers, seed manufacturers, crop protection manufacturers, seed manufacturers' representatives, crop protection manufacturers' representatives, independent crop consultants, crop insurance agents (see column 7, lines 1-3), agricultural lenders, marketing advisors, agricultural certified public accountants, agricultural equipment manufacturers, and agricultural equipment manufacturers' dealers.

As per claim 9, Hargrove, Jr. et al discloses said global electronic communication network is selected from the group consisting of the Internet, an Intranet, an extranet, a Local Area Network, a telephone network, a cellular network, a satellite network, a personal communication system, a television network, a wireless data network, a wireless Local Area Network, a wireless local loop/distribution system, a Voice Over Internet Protocol network, and a wide area network (networked computers, see column 4, lines 23-25).

As per claim 10, Hargrove, Jr. et al discloses the step of allowing access to said input information by said third party industry professional (agent, see column 7, lines 1-3).

As per claim 13, Hargrove, Jr. et al discloses the step of performing an iterative process to determine at least one additional farm management plan (modification of policy/plan, see column 7, lines 42-45).

As per claim 14, Hargrove, Jr. et al discloses said iterative process comprises modifying at least one controllable variable, said at

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least one controllable variable selected from the group of crop programs, crop rotation patterns, different amounts of production contracts, different types of production contracts, and crop insurance (modification of policy/plan, see column 7, lines 42-45).

As per claim 16, Hargrove, Jr. et al discloses said user selecting a desired farm management plan that meets desired goals from the first farm management plan and the at least one additional farm management plan (modifications to policy/plan are based upon desired goals of the farmer).

Claims 19, 22-25, 27-28, 31-32, and 34 lack novelty based upon the lack of novelty of claims 1, 4-7, 9-10, 13-14, and 16, respectively, since they are the system claims corresponding to the method claims.

Claims 37, 40-43, 45-48, and 50 lack novelty based upon the lack of novelty of claims 1, 4-7, 9-10, 13-14, and 16, respectively, since they are the computer program claims corresponding to the method claims.

Claims 2-3, 11-12, 20-21, 29-30 and 38-39 lack an inventive step under PCT Article 33(3) as being obvious over Hargrove, Jr. et al (USPN 5,897,619), in view of Wilcox (Accounting on It: Use of Accounting Software in Managing Farms, December 1997).

As per claim 2, Hargrove, Jr. et al does not disclose the custom farm management plan comprising crop selection and allocation of farm resources for seasonal or multi-seasonal cropping strategies. Wilcox discloses crop selection based upon a software planning system and re-allocation of acreage (see page 1, ¶ 12-13). Both Hargrove, Jr. et al and Wilcox are concerned with effective farm management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include crop selection and allocation of resources in Hargrove, Jr. et al, as seen in Wilcox, thereby including further variables in the determination of the farm management plan in Hargrove, Jr. et al, thus making the method more robust and customer specific.

As per claim 3, Hargrove, Jr. et al does not disclose farm resources comprising capital, land, labor, machinery, crop storage, irrigation system capacity and water rights, and nutrient loading. However, the Examiner takes Official Notice that the listed resources are old and well known in the farming industry, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the resources listed above in Hargrove, Jr. et al, thereby allocating all resources available to the user, this making the method more robust.

As per claims 11-12, Hargrove, Jr. et al does not disclose said display of said custom farm management plan is in tabular and graphical form. Wilcox discloses the use of graphs and charts as decision-making tools (see page 2, ¶ 3). Both Hargrove, Jr. et al and Wilcox are concerned with effective farm management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the plan in tabular and graphical form in Hargrove, Jr. et al, as seen in Wilcox, thus providing the user with alternate methods to analyze the information, thereby increasing the flexibility of the method.

Claims 20-21 and 29-30 lack inventive step based upon the lack of inventive step of claims 2-3 and 11-12, respectively, since they are the system claims corresponding to the method claims.

Claims 38-39 lack inventive step based upon the lack of inventive step of claims 2-3, respectively, since they are the computer program claims corresponding to the method claims.

Claims 8, 15, 26, 33, 44, and 49 lack an inventive step under PCT Article 33(3) as being obvious over Hargrove, Jr. et al (USPN 5,897,619), in view of McCauley (USPN 6,058,351).

As per claim 8, Hargrove, Jr. et al does not disclose a mathematical optimization algorithm selected from the group of linear, integer, mixed integer programming, and parametric programming. McCauley discloses mathematical transformation of input data, such as vector normalization (see column 4, lines 41-47) applied to site-specific farming. Both Hargrove, Jr. et al and McCauley are concerned with effective farm management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include mathematical optimization in Hargrove, Jr. et al, as seen in McCauley, thereby being able to optimize yield as a function of inputs being applied during the construction of the production plan (see McCauley, column 1, lines 17-21).

As per claim 15, Hargrove, Jr. et al does not disclose said iterative process comprises modifying at least one uncontrollable variable, said at least one uncontrollable variable selected from the group of crop prices, yields and production costs. McCauley discloses yield as a user selected field characteristics (see column 4, lines 22-26) as input into the site-specific production plan. Both Hargrove, Jr. et al and McCauley are concerned with effective farm management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include modifying at least one uncontrollable variable in Hargrove, Jr. et al, as seen in McCauley thereby being able to optimize yield as a function of inputs being applied during the construction of the production plan (see McCauley, column 1, lines 17-21).

Claims 26 and 33 lack inventive step based upon the lack of inventive step of claims 8 and 15, respectively, since they are the system claims corresponding to the method claims.

Claims 44 and 49 lack inventive step based upon the lack of inventive step of claims 8 and 15, respectively, since they are the computer program claims corresponding to the method claims.

Claims 17-18, 35-36, and 51-52 lack an inventive step under PCT Article 33(3) as being obvious over Hargrove, Jr. et al (USPN 5,897,619), in view of Batts (Factors Influencing the Profitability of Precision Farming, First Quarter 2000).

As per claims 17-18, Hargrove, Jr. et al does not disclose said user compares between the first farm management plan and the at least one additional farm management plan based on gross income, downside risk, opportunity cost risk and resource use, and the

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desired farm management plan determined from profit maximization, risk minimization, resource minimization, and environmental stewardship. Batte discloses site-specific management based upon input levels, which effects both revenues and costs (i.e., income and risk, see Figures 1 and 2), based upon the law of diminishing returns. Batte also discloses managing variable and fixed costs to maximize production and environmental benefits (page 17, right column, last paragraph). Both Hargrove, Jr. et al and Baue are concerned with effective farm management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the plan based on gross income, downside risk, opportunity cost risk and resource use, and the desired farm management plan determined from profit maximization, risk minimization, resource minimization, and environmental stewardship, in Hargrove Jr. et al, as seen in Batte, thereby developing production plans that improve both the profitability of the farm and to lessen environmental damages (see Batte, page 17, middle column, last paragraph).

Claims 35-36 lack inventive step based upon the lack of inventive step of claims 17-18, respectively, since they are the system claims corresponding to the method claims.

Claims 51-52 lack inventive step based upon the lack of inventive step of claims 17-18, respectively, since they are the computer program claims corresponding to the method claims.

Claims 1-52 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

## NEW CITATIONS

US 6,058,351 A (McCauley) 2 May 2000, see column 4, lines 22-26 and 41-47

Wilcox. Accounting On It: Use of Accounting Software in Managing Farms. Successful Farming. December 1997, Vol 95, pages 25-26